UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,129	08/24/2001	Victor T. Hou	68507/276074	2971

26615 7590 06/02/2004	**EXAMINER**
HARRITY & SNYDER, LLP	GANDHI, DIPAKKUMAR B

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ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _24 August 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _5/13/02_.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966),

that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are

summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating obviousness or nonobviousness.

3.   Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollums et al. (US

2002/0093972 A1) in view of Quigley et al. (US 2001/0055319 A1).

As per claim 1, Hollums et al. teach a method of granting mini-slots to a cable modem (CM) by a cable

modem termination system (CMTS) (page 1, paragraph 7, 8, page 2, paragraph 12, Hollums et al.), the

method comprising: receiving a bandwidth request by the CMTS from the CM (page 1, paragraph 7,

Hollums et al.); determining whether the CM is dynamic burst profile mode capable after receiving the

bandwidth request; and if the CM is determined to be dynamic burst profile mode capable, assigning a

burst profile and granting mini slots to the CM based on the burst profile and the bandwidth request; and if

the CM is determined not to be dynamic burst profile mode capable, assigning another burst profile and

granting mini slots to the CM based on the another burst profile and the bandwidth request (page 1,

paragraph 9-11, page 2, paragraph 12, Hollums et al.).

However Hollums et al. do not explicitly teach the specific use of maintaining performance statistics of the

CM by the CMTS.

Quigley et al. in an analogous art teach that the channel monitoring function is, for example, incorporated into each individual burst receiver, of which there are typically eight per cable modem termination system (page 21, paragraph 319, Quigley et al.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Hollums et al.'s patent with the teachings of Quigley et al. by including as additional step of maintaining performance statistics of the CM by the CMTS.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that it would provide the opportunity to change the communication system parameters based on the user requirements and changes in the communications environment.

- As per claim 2, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method, wherein the assigning of another burst profile is based on industry standards (page 1, paragraph 8, 11, Hollums et al.).

- As per claim 3, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method wherein industry specifications comprises Data Over Cable Service interface Specifications (DOCSIS), (page 1, paragraph 8, 11, Hollums et al.).

- As per claim 4, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method wherein the assigned burst profile is based on performance measurements and robustness level of the CM (page 1, paragraph 10, Hollums et al.).

- As per claim 5, Hollums et al. and Quigley et al. teach the additional limitations.

Quigley et al. teach a method, wherein the robustness level of the assigned burst profile is determined by modulation type, the length of a preamble, amount of Reed-solomon error corrections, and size of a Reed-solomon codeword (figure 30, figure 65, page 2, paragraph 13, page 11, paragraph 196, page 13, paragraph 224, page 15, paragraph 241, page 15, paragraph 248, page 20, paragraph 313, page 21, paragraph 319-320, page 22, paragraph 336, page 23, paragraph 351, page 34, paragraph 495, Quigley et al.).

- As per claim 6, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach determining whether the CM is dynamic burst profile mode capable (page 1, paragraph 9, Hollums et al.). Quigley et al. teach using a registration process (page 40, paragraph 550, Quigley et al.).

- As per claim 7, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach using the bandwidth request (page 1, paragraph 7, Hollums et al.) and determining whether the CM is dynamic burst profile mode capable (page 1, paragraph 9, Hollums et al.).

- As per claim 8, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method for increasing physical layer flexibility in a cable modem system, the cable modem system including a cable modem (CM) coupled to a cable modem termination system (CMTS) through an access network (page 1, paragraphs 8-10, Hollums et al.), the method comprising;

Receiving a bandwidth request from the CM (page 1, paragraph 7, Hollums et al.);

Determining whether the CM is dynamic burst profile mode capable; and

Assigning a burst profile from a plurality of burst profiles communicated to the

CM; and

Granting mini-slots to the CM, the number of mini-slots granted to the CM dependent on whether the CM is dynamic burst profile mode capable (page 1, paragraph 9-11, page 2, paragraph 12, Hollums et al.). Quigley et al. teach providing the CMTS that is capable of maintaining performance statistics of the CM (page 21, paragraph 319, Quigley et al.).

- As per claim 9, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method, wherein the assigned burst profile is dependent on whether the CM is dynamic burst profile mode capable (page 1, paragraph 9-10, Hollums et al.).

- As per claim 10, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method, wherein if the CM is not dynamic burst profile mode capable, the assigned burst profile is based on industry standards (page 1, paragraph 9-11, Hollums et al.).

- As per claim 11, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method, wherein industry specifications comprise Data Over Cable Service interface Specifications (DOCSIS) (page 1, paragraph 11, Hollums et al.).

- As per claim 12, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach a method, wherein if the CM is dynamic burst profile mode capable, the assigned burst profile is based on performance measurements and robustness level of the CM (page 1, paragraph 10, Hollums et al.).

- As per claim 13, Hollums et al. and Quigley et al. teach the additional limitations.

Quigley et al. teach a method, wherein the robustness level of the assigned burst profile is determined by modulation type, the length of a preamble, amount of Reed-solomon error corrections, and size of a Reed-solomon codeword (figure 30, figure 65, page 2, paragraph 13, page 11, paragraph 196, page 13, paragraph 224, page 15, paragraph 241, page 15, paragraph 248, page 20, paragraph 313, page 21, paragraph 319-320, page 22, paragraph 336, page 23, paragraph 351, page 34, paragraph 495, Quigley et al.).

- As per claim 14, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach determining whether the CM is dynamic burst profile mode capable (page 1, paragraph 9, Hollums et al.). Quigley et al. teach using a registration process (page 40, paragraph 550, Quigley et al.).

- As per claim 15, Hollums et al. and Quigley et al. teach the additional limitations.

Hollums et al. teach using the bandwidth request of the CM (page 1, paragraph 7, Hollums et al.) and determining whether the CM is dynamic burst profile mode capable (page 1, paragraph 9, Hollums et al.).
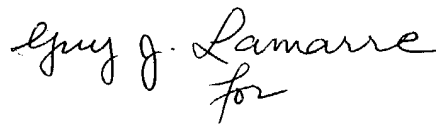
4.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Dipakkumar Gandhi whose telephone number is 703-305-7853. The examiner can

normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

Albert Decady can be reached on (703) 305-9595. The fax phone number for the organization where this

application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained from

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)

at 866-217-9197 (toll-free).

Dipakkumar Gandhi
Patent Examiner

Albert DeCady
Primary Examiner